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ABSTRACT

Teacher compensation systems, particularly the merit pay plan, are discussed in this paper. The introduction offers a historical overview of incentive compensation programs and presents the policy issue--whether or not merit pay plans contribute to school effectiveness. The single salary system is described in the next section, followed by a discussion of the merit pay plan. An effective merit plan requires clearly identified goals, identification of working conditions, accurate measurement, and valued rewards. Proponents of the plan argue that it provides powerful incentives, promotes communication and feedback, and is politically attractive. Drawbacks include faulty design, administrative problems, psychometric weaknesses, and legal and philosophical concerns. Alternatives to merit pay are discussed in the third section, which concludes that not all are performance-based. The fourth section presents a modified merit pay plan as a preferred policy option, in which the teacher receives a combined rating based on student achievement scores and teacher ratings based on principal and peer evaluation. The recommendation is made for compensation to be determined in accord with clearly defined teacher evaluation criteria. A conclusion is that problems solved by the merit pay plan outweigh those it creates. The appendix provides an example of a single-salary schedule. (34 references) (LMI)

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COMPENSATION SYSTEMS AND SCHOOL EFFECTIVENESS:

MERIT PAY AS AN INCENTIVE FOR SCHOOL IMPROVEMENT

by

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TABLE OF CONTENTS

I. Introduction

A. Merit pay and the school effectiveness movement

1. Political context

2. Central issues

B. History of merit pay in the United States

1. Post World War I

2. Post Sputnick

3. Current aspects of the program

C. The Policy Problem

1. Defining the problem

2. Significance of the problem

3. Important perspectives

II. Teacher Compensation Plans and Procedures

A. The single salary system

1. Current use

2. How it operates

3. What it rewards

4. Critique

B. Merit pay

1. Defined

2. Current incidence

C. Design specifications

1. Minimum requirements

2. Design guidelines

3. "Theory" of design

D. Merit pay: arguments for

1. Incentive, reward

2. Feedback and communication

E. Merit pay: arguments against

1. Design

2. Administrative

3. Psychometric

4. Legal

5. Philosophical

F. Summary

III. Alternatives to Merit Pay

A. Job restructurings

B. Modifications to either single-salary or merit plans

IV. Preferred Policy Option

A. A Working Framework

1. Design guidelines

2. Defining "effectiveness" in schools

3. Compensation philosophy

4. Criteria for assessing effectiveness

5. Reward structure

B. The incentive program for principals

C. Policy Recommendations

D. Merit Pay and Organizational effectiveness

V. Summary and Conclusions

Appendix 1. Sample of Single-salary table

Bibliography

COMPENSATION SYSTEMS AND SCHOOL EFFECTIVENESS: MERIT PAY AS AN INCENTIVE FOR SCHOOL IMPROVEMENT

EXECUTIVE SUMMARY

Merit pay emerged on the current scene as a result of the Nation at Risk report in 1983. The idea of merit pay is a simple one which many people seem to agree with: in order to improve our schools, pay better teachers more money. The merit pay approach, while seldom used, is all the more compelling when stacked up against the now common single-salary approach to paying teachers. This approach rewards job tenure and continued teacher education. Merit pay is an approach that makes salary adjustments contingent on teacher performance. To work effectively, though, such programs depend on clearly identified goals, proper identification of working conditions, accurate measurements and valued rewards. As traditionally considered, many of these items are not directly applicable to the teacher's job. The reasons suggested for using merit pay plans are that they serve as powerful incentives and rewards, they promote communication and feedback with the teacher and that they are politically attractive. The problems pinned on merit pay programs are many: faulty design, administrative burdens and problems, psychometric weaknesses, legal headaches and philosophical questions. Many of the alternatives thrown into the merit pay

debate -- such as master teacher plans, combat pay or career ladders -- are not performance-based incentive plans. A range of alternatives to straight merit pay plans include variations on the single-salary scheme, hybrids between the two and group-based plans. In this paper, a modified merit pay plan is advocated. Each teacher would receive a combined rating based on student achievement scores and teacher ratings (done by both the principal or other instructional leader, and by a set of peer teachers). A sliding scale of rewards paralleling a range of ratings would be used. Principals would be under a similar, yet nonetheless distinctive rating program. This proposal is examined under the terms outlined by Cameron and Whetten (1983).

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COMPENSATION SYSTEMS AND SCHOOL EFFECTIVENESS: MERIT PAY AS AN INCENTIVE FOR SCHOOL IMPROVEMENT

INTRODUCTION

The publication of A Nation at Risk in 1983 helped spark the current debate on school effectiveness. Calling attention to the deplorable drift in American public education, the report recommended a number of tactics for stopping the hemorrhage. One of the report's more controversial recommendations was the advocacy of merit pay as a way to reward excellent teachers and improve school results. Given the Reagan administration's problems growing from its very limited support for educational issues, "merit pay" became a political gift handed to them on a silver platter. Here was a lightning rod issue that many in the populace could identify with and which seemed to be a natural way to improve education. The resulting bandwagon pulled in tow a number of alternative suggestions. But in spite of the proliferation of suggestions, merit pay remains the centerpiece to the debate.

At the root of this debate is the presumed role of money as a motivator (Opsahl and Dunnette, 1966; Bacharach, Lipsky and Shedd, 1984). Professional opinion (Squires, Huitt and Segars, 1983) seems to be in concordance with the common wisdom on this point: improvements in student achievement will be driven, to some degree, by improvements in teacher

performance. In the context of school effectiveness, the merit pay advocates presume that differences in teacher performance reduce to differences in motivation. By making salary contingent on performance, motivation to do an outstanding job should increase, and the flowering of student achievement follow. Jung (1984) has correctly cautioned that there are two primeval questions that haunt this debate:

1. Should teacher compensation be linked with teacher job performance?
2. Even if it is, is education improved by rewarding superior teachers?

These two questions stand silent sentry over the field of discussion. Unfortunately, neither question can be answered cleanly at this time.

The emergence of merit pay as a proposed solution for the current crisis in education, while relatively recent to the policital discourse, is not new to our experience. In fact, this is the third time around for merit pay in America in this century (Johnson, 1984). The first major period in which merit pay plans occured were the years immediately following World War I. It is estimated that in 1918 almost half of 309 cities had some kind of merit plan. The use of merit plans rose to the highwater mark of around 310 districts in 1923. Enthusiasm waned slowly and by the 1930's, few plans remained. The Russian launch of Sputnik in the late 1950's sent new chills down the American introspective spine over the

effectiveness of its schools. By the early 1960's, about 10% of U.S. school districts had a merit pay plan. Again, however, use of these plans subsided so that only about 5% of the U.S. school districts reported having a merit pay plan by 1972.

The current interest in merit pay plans introduces some new twists. First, "old style" plans tended to measure teacher performance in terms of observed classroom behavior. The "new style" involves assessing teacher performance in terms of student achievement on standardized test scores (Bacharach et al., 1984). Second, teachers seem to support the concept of merit pay (Rist, 1983). Third, merit pay plans are suggested as but one alternative way to restructure the teacher's job in order to stimulate and sustain excellence in educational practices. The alternatives are not merit pay plans as such but do propose the use of compensation tricks to solve educational staffing and performance problems.

The Policy Problem

The basic question is: can an incentive compensation program modeled along the lines of a merit pay plan make an important contribution to improving school effectiveness? If so, then how should that program be set up and operated? If not, then what alternatives or options should be considered?

The significance of this problem tolls in three domains. First, there is the budgeting domain, and budget discussions insert politics variables into line-item computations. The intuitively appealing notion of paying better teachers better "plays well in Peoria", so finding public support for a program like merit pay should be comparatively easy. The limitations of current pay plans will be scrutinized in contrast, and decisions -- one way or another -- will be made about how to pay teachers. However, there is no guarantee that the correct approach to paying teachers, whatever that approach is, will be taken. Second, to pay for merit means that merit is identified. Whether the process accurately or not identifies the meritorious is immaterial to the fact that distinctions between teachers are made and acted on. These ratings do not occur in a vacuum; serious impacts on self-concept and school morale are probable. Are these effects bad and to be avoided? Its hard to say at this point, and even if there are some negative effects, the gains may outweigh them. The effects of pay plan decisions on teachers are important matters to which to be sensitive. Third, merit pay plans require administrative commitment and resources (Wise, Darling-Hammond, LcLaughlin and Bernstein, 1985). Again, this may not be altogether bad but the implications should be considered. Moreover, the downside obligations of an effective merit pay program may be offset by upside potential: if school effectiveness can be materially improved through a merit pay

plan, then schools can put their hands on a relatively direct and easy-to-use lever for extending results.

Any discussion of incentive compensation programs is informed by three bodies of literature. First, there is the field of organizational behavior modification. OBM is a body of research built on the psychological theories of B.F. Skinner. Second, there is compensation planning. Finally, the need for an accurate process for measuring merit calls forth the realms on psychometrics and performance appraisal. This report on merit pay is limited both by time and resources. Only a portion of the growing volume of published reports in each of these fields can be reviewed here. Significantly, much of the specific literature on merit pay in public education is in the form of case and anecdotal reports. Experimental and quasi-experimental tests of merit pay on teacher performance and student achievement have generally not been reported.

In the pages that follow, we will explore the policy problem as stated above. To do this, it is necessary to begin with a review of the prevailing single salary system commonly used in paying teachers. After examining the implications of this structure, merit pay will be defined and characterized. Arguments pro and con merit pay will then be presented. The problems with merit pay plans can be substantial, including potential counterproductive impacts on teaching and learning, poor implementation, legal questions and psychometric

insufficiency. After summarizing these matters, alternative options for compensating teachers will be introduced. A recommended policy will then be suggested, along with an analysis of how this position relates to the broader issues of school effectiveness.

TEACHER COMPENSATION PLANS AND PROCEDURES

There are four basic criteria on which decisions about how a teacher is to be paid can rest (Monk and Jacobson, 1985). The criteria are:

*amount of job duties and responsibilities
*the teacher's teaching efficiency
*the level of student achievement
*the importance of the contribution (for example, teaching subjects in high demand or in hard-to-staff schools)

The more of each factor, the higher the compensation.

According to the Educational Research Service (1984), 90% of U.S. teacher salary plans rely on either the first or last factor. The typical compensation scheme used to pay teachers in the United States is the uniform or single salary plan. Under this plan, two factors are used to decide a teacher's compensation. (See Appendix 1.) One factor is the individual's educational background, shown in the columns in the example. The second factor, shown in the rows, equals

years of teaching experience. A teacher's salary is thus basically determined by locating the cell on the table that corresponds to the individual's educational level and years of experience. Pay increases occur annually after the completion of another year's service, following a predictable advance up the steps within each educational level. Jumps to the next educational level occur when an advance is made. The amount of dollar increments from one step to the next or from one level to the next can be figured any number of ways. Cost-of-living increases or bonuses for extra work assignments may be laid over this basic schedule.

Each compensation program communicates certain vital bits of information to the people who are paid under its terms and conditions. In particular, all compensation systems signal what the employer wants to reward and what kinds of employee behaviors are valued. It is impossible for communication like this not to occur. Of course, like all communication, the signal received may not equal the signal sent, and people may have limited or incorrect understanding of the pay system in use. But have an understanding of it they will. Thus, one key to understanding the effect of any compensation system is to look at how well the system aligns with and thereby communicates the strategic goals and directions of the employer. The implication here is that the more clearly planned and intentional the compensation program, the better the chances for desired results.

This maxim applies to the single salary system. What kinds of behaviors do these plans signal as important? There are two: longevity and continued education. Rewards to teachers come from staying with the school district and from gathering additional college credits. There is no recognition of how well or how poorly the teacher does his or her job. The contingency between performance and reward is that by sticking around, a salary increase will by and large come automatically each and every year. For a system that may be very dependent on a limited labor supply, this may be the acceptable trade-off for signalling performance expectations. The inference -- or hope -- built into this plan is that teaching performance improves with each year spent in the classroom and with each additional hour of college completed. However, Ferris and Winkler (1986) claim that there is no evidence that a teacher's continued education leads to improved teaching, and certainly, burnout and rigidity in performance are as likely a result of prolonged teaching experience as would be creeping excellence. On the other hand, the single salary system is an administrative dream. First, accurate salary planning at budget time is possible. Second, each teacher is rewarded in the same way, avoiding disharmony that might result for differential distribution of rewards. Third, there is no need to examine teacher performance nor are teachers held accountable through their salary for their performance. It is easy to see why teachers and administrators may find a system

like this comfortable, while parents and others concerned about the quality of education might not.

Merit Pay

A merit pay plan is a method of compensating teachers that makes each teacher's salary dependent to some degree on an evaluation of that teacher's performance. As such, merit pay plans are held up as an alternative to the more sinecure-like method of the single salary plan. By making compensation contingent on performance, merit pay plans are clearly different than other compensation and staffing schemes like master teacher plans, differentiated staffing or bonus pay plans for extra duty assignments or special site locations (Bacharach et al., 1984). For these plans, compensation is not linked with teaching performance.

In 1978, the Educational Research Service (Porwoll, 1979) surveyed virtually all school districts in the United States on their use of merit pay plans. According to their sample, only about 4% of the districts in the United States had a merit pay type plan in use at that time, while another 5% indicated plans for installing a merit pay system. Of those in existence, one in five plans were found in either Texas or Illinois. Half of the plans were less than six years old. On the other hand, 6% of the reporting districts said they had

abandoned a merit type plan, two-thirds of that group doing so within that same six year span. The most commonly listed reasons for dropping these plans involved the administrative burdens of producing fair teacher evaluations, teacher dislike for the plan and high expense.

Design Specs for Establishing a Merit Pay Plan

As Johnson (1984) quipped, the track record of merit pay plans has not been inspiring. Given the very spotty record, it is important to know how a merit pay plan should be set up. That is, in order to determine how well a merit pay plan works, it is first necessary to make sure that plan has been properly implemented. A good technique make yield consistently bad results if it has been consistently poorly executed. How, then, should merit plans be structured? Since merit plans are intended to support the achievement of desired organizational outcomes, the design of the compensation system should derive from organizational strategic directions (Newman, 1987; Hurwich, 1986). The first requirement, then, for the design of an effective incentive system is that organizational strategic goals be identified. The issue of what strategic goals are in education is a provocative one.

There are a number of other guidelines that should be met in establishing an incentive system. These guidelines include

the following:

1. The purpose or intention of the program should be clearly stated at the outset.

   Scherer (1983) has noted at least four distinct ambitions which a merit pay plan could pursue:

   >to improve the quality of classroom teaching

   >to reward outstanding teachers

   >to attract better candidates into the field or district

   >to motivate all, most, some or a few teachers to do more.

   Each of these intentions would lead to different kinds of plan design. For example, the reward goal would be focused on teachers in the system. The validity of the evaluation process, internal equity and administration of rewards would all figure as prominent issues in program design. These concerns would not be so important in programs designed to attract people from outside the system.

2. The nature and organization of the work should be such that differences in individual effort or skill can be detected.

   Consider the differences between the job of a person on the assembly line and an outside salesperson. In the former case, job performance is dependent on so many factors outside the worker's control that, barring gross incompetence, any person put into the job will probably do it much the same. An outside sales job, on the other

hand, will be very sensitive to the salesperson's energy and talent. Merit pay is not a good idea for jobs that are highly embedded or dependent on others (Lawler, 1981).

Teaching is a curious hybrid in this context. On the one hand, the teacher's job exists in a loosely coupled system, configuring each teacher's job into a stand-alone posture. On the other hand, however, the teacher's job is very sensitive to the quality of the input (students) and to the climate of the school (Edmonds, 1979; Squires et al., 1983). That is, the teacher's job appears to be operationally autonomous and in fact minimum levels of performance can be achieved under this condition. In fact, performance seems to respond to the influence of others.

3. The unit to be evaluated should be the actual or desired unit of performance.

   This is a corollary to item (2): it is unwise to evaluate individuals if a work-group is the real or desired unit that gets the work done. This is an important guideline for schools: even though the teacher's job is often done in isolation, improved performance comes from strong group involvement. The natural momentum to the organization of teaching is centrifugal; there must be an active effort to introduce offsetting centripetal movement. In this context, group or school-based evaluative criteria make sense. (Lawler, 1981)

4. The work done should be capable of straightforward measurement.

   Picking up on (3), what may not be easy to measure at the individual level may be possible at the group or organization level. Where are the best measures of performance for the criteria of most interest? This implies, of course, that the criteria of interest is clearly known and appropriate.

5. The rewards to be used should be valued and meaningful. Kreftin, Newman and Krystofiak (1987) have suggested, for example, that what a person considers a meaningful pay adjustment depends on what criteria the person uses to evaluate the adjustment. If purchasing power is the criteria, the adjustment should add to the person's ability to consume. If the person is using a recognition framework, then adjustments are judged in terms of previous adjustments and in terms of what others in the organization are perceived to receive. All of this occurs within the context of how much teachers value monetary rewards to begin with (more on this below). Indeed, it is possible to take a total compensation view of the reward picture, including benefits and quality of work considerations as well as straight cash as possible rewards (Bruno, 1986).

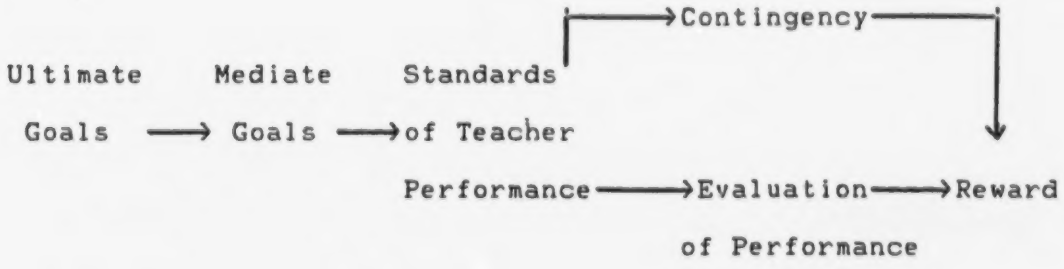
6. How many people in the workforce should be able to qualify for the reward?

   This is phrased as a question because there is no

guideline here, only an issue. For example, how widely distributed is high teacher competence presumed to be in the labor pool? Is it widely found or rare and atypical? This is an important issue because the answer to this question will influence the design of the program in terms of eligibility criteria.

One important rule here, though, is that teachers should not be compared with each other in determining eligibility. Thus, a fixed quota system -- such as only the top 10% of teachers in the system can be eligible -- should be avoided at all costs (Scherer, 1983).

Under these terms, the skeleton of a merit pay system can be illustrated. Jung (1984) has suggested a "theory" of design that offers an excellent starting point. A modified version of that theory is shown below.



Using this theory, a traditional merit pay plan would be set up something like this. First, the ultimate goals would be based on District or school objectives for student learning

and achievement. To reach this ultimate goal, certain mediate goals are also needed and specified. These mediate goals focus, in part, on teacher performance. These goals are translated into standards of teacher performance. A contingency between performance and reward is established: some level of reward is promised based upon some level of performance. The merit pay award can be made as a permanent increase to the teacher's base salary, can be a one-time bonus or could be traded for other desireable outcomes (such as attendance at a conference or receipt of special teaching materials) (Hatry and Greiner, 1985).

Merit Pay: Arguments For

There are seven reasons offered in support of merit pay plans (Bacharach et al., 1984). The first pro-merit pay argument rests on the assumption that teacher performance will respond to financial incentives. By promising money for superior performance, it is assumed that teachers (at least some teachers) would do a better job of teaching more content to more students in less time (Calhoun, 1983). Money serves as an incentive to all teachers in this view. Second, merit pay is a way to reward those teachers who do an outstanding job. Third, a variant on the reward aspect, merit awards are also powerful forms of feedback. They function to let teachers know that they are recognized, valued and appreciated.

Fourth, merit plans are useful mechanisms for controlling and shaping teacher performance. They give the principal an additional tool to use in building school performance. Fifth, merit pay plans generate communication between prinicpal and teacher on performance issues. Sixth, these plans should help retain the best teachers while simultaneously signalling low tolerance for poor performers. Finally, merit pay plans can find a lot of political support. Finding the budget dollars to raise teacher salaries should occur more easily under this banner.

All in all, the logic of merit pay seems unassailable. Here is a program that satisfies the deepest values within American culture. It seems like a sure-fire way to improve teacher performance, particularly when this plan is compared with its more traditional single-salary competitor. In the words of my brother-in-law from New Jersey: "What's not to like?"

Arguments Against Merit Pay

There are a number of fundamental questions that bedevil merit pay plans, however. The objections fall into five categories: design, administrative, psychometric, legal and philosophical. Each will be presented in turn.

The <u>design</u> difficulties surface as the specifications are

made. First, merit plans that focus on individual effort may be myopic. Collegial and school results are an integral part of total desired performance. Such plans may divert attention away from these collaborative efforts into an exclusive focus on individual performance. Second, if student test scores are used as the criteria of evaluation, teachers will tend to "teach to the test". Answers to specific questions may be taught more than general problem-solving and thinking skills (Bacharach et al., 1984). Or, teachers may try to recruit or concentrate their efforts on the best students as a way to drive up scores. Third, there is an prominent line of thinking that suggests that people who enter the teaching profession are not highly sensitive to financial incentives (Bruno, 1986; Ferris and Winkler, 1986). Some research into teacher preferences indicates that they tend to have a higher intrinsic motivation for challenging work that allows them to "reach" students' minds. Not only would financial rewards hit wide of the motivational mark, it is argued, their widespread use would begin to atrophy that intrinsic motivation while conditioning teachers to wait for financial incentives before instituting changes.

The <u>administrative</u> problems are equally daunting. Like every other kind of performance-based review and compensation program, management is placed in a bind: on the one hand, managers are there to help their subordinates; on the other, they also judge them (Blau, 1955; McGregor, 1960). Since

salary adjustments based on performance are high stakes for the employee, an adversial relationship between the evaluating principal and rated teacher is almost universally installed. This adversial tone may even spill over and poison relations between teachers. This counterproductive effect on morale will be very likely if teachers are compared to each other (as in a quota system), if merit recipients are publically identified and if there is a limited budget allocation for merit awards. The counterproductive effects may not be localized among the "poorer" performers (if it were, these effects might actually be desireable). Merit awardees may feel unfairly singled out with all the attention. Finally, in this area, as Wise et al.(1986) found in their thorough study of performance appraisal programs for teachers, substantial amounts of administrative resources (particularly time and personnel) are a necessary condition for program success.

A good merit system requires a psychometrically sound appraisal process. The problems in creating a valid and reliable performance appraisal system are legion (Wise et al., 1986; Latham and Wexley, 1981), and these problems exist for both the old style methods of observing teacher classroom performance and for the new style of measuring student achievement. In the former case, on top of the standard sources of error in rating performance through observation (Mitchell, 1979), there is the larger problem of correctly identifying what to rate. For example, the competencies of

effective teaching remain elusive. Further, what constitutes good teaching in one context will likely differ from good teaching in another. Identifying what teaching behaviors to evaluate is a major drawback.

Haertel (1986), in a tour de force review, has outlined the psychometric problems implicit in the appraisal process, particulaly when student scores are used for the evaluation. For Haertel, the trick is to be able to partial out all the contaminating factors from achievement scores, leaving the effects of the teacher on achievement scores to stand out in bold relief. The types of contaminating factors include:

*the entry-level abilities of students in the subject... the results of teaching an advanced class will likely be very different than teaching a class with only minimal entry-level skills

*variations in individual student aptitudes

*amount of family support and encouragement for study

*teaching conditions, including class sizes, teaching duties, instructional support, training in the curriculum

*testing procedures

In order to have a workable appraisal system, the following steps are necessary:

1. teachers must be put into comparable groups that have similar learning objectives, comparable students, etc.
2. tests used should be designed to be test-wise proof. That is, they should test for knowledge application, not recall.

3. testing shold be done on a pre and post basis, at the start and end of each year, with test scores reported to parents
4. teachers should keep a portfolio on each student's progress throughout the year
5. within each group, a regression line would be established to predict achievement levels for students in that group. Then, actual scores would be compared to that prediction.
6. rigorous analytic procedures would be required in evaluating test scores.

There are legal implications of merit pay, according to Shaw (1985). For example, tenured teachers seem to enjoy a due process protection in the determination of salary. Such evaluations should include procedures for advance notice, job relevant evaluative criteria and equal treatment. Further, evaluations should not use criteria on outside political or public activities as part of the evaluation (these would violate First Amendment free-speech protections). In order to avoid defamation problems, the criteria should be objective and observable, and evaluations should be kept confidential.

Finally, there are a couple of fundamental philosophical issues facing merit pay plans (Johnson, 1984). Two have already been mentioned. First, merit plans that focus on individual effort are out-of-phase with the collegial needs of teaching. Second, there is no one model of what a good teacher does. Finally, perhaps most tellingly, there is no

consensus on the goals and strategic directions of schools. Without a clear sense of mission or purpose, virtually any teaching behavior could be considered acceptable.

Summary

Merit pay plans are an alternative to the traditional single-salary pay plan. Unlike the latter's emphasis on tenure and continued education, merit plans seek to reward better teacher performance with monetary adjustments. The design of these plans creates a contingency between performance and reward. As such, it is argued, merit plans fulfill a variety of reward, incentive, feedback and role clarification functions. Certain assumptions about how merit pay plans operate pervade the debate. These assumptions include: that ratings are done on individuals, that these ratings can be done competently, that ratings become public, that teachers will respond to financial incentives and that financial incentives are to be used. As we have seen, each of these assumptions is really a decision; there are a number of design options that are available. Merit pay is a large concept that can take on many shapes.

Many would argue that the price of a merit pay plan is too high (and "price" means much more that dollar commitments). Look at the liability side of the balance sheet on merit pay.

The problems of designing and administering a workable system can be intimidating. There are a host of legal, psychometric and philosophical issues that challenge even the most stalwart defender. Indeed, given the drawbacks, are there any relatives of merit pay plans that are more appealing than the single-salary program but which come without all the troublesome baggage of merit pay schemes?

ALTERNATIVES TO MERIT PAY PLANS

There are two basic classes of alternatives to merit pay plans (Bacharach et al., 1984). The first class includes the various proposed options for restructuring the teacher's job. The most commonly mentioned example is the Master Teacher concept. Here, the top teachers in their fields are promoted into a "lead worker" type of position. Their added job duties of coaching and coordination would mean a higher salary. Career ladder programs are a variant to the Master Teacher concept: a developmental sequence of positions are strung together to identify steps in a person's teaching career. Special bonus programs would pay a premium for teachers who are qualified to teach in a hard-to-staff content area or a hard-to-staff school ("combat pay"). Since none of these options regulate a teacher's on-going compensation in terms of the teacher's performance, they do not qualify as an performance-based incentive program and will not be considered

further here.

The second class of alternatives involves variations on both the single-salary and merit pay themes. The options will be discussed in sequence, moving from the single-salary plan to a merit pay system.

The first option is simply to keep the existing single-salary system as is. Prudence counsels that pay plans should not be changed too easily. This is an important reminder when considering any change to a compensation plan. The next level of option is to tinker with the single-salary system in minor ways. Here are some possibilities (Bacharach et al., 1984; Bruno, 1986; Ferris and Winkler, 1986):

*increase starting rates -- this should increase the supply of teachers without necessarily improving the quality of instruction

*increase the size of increments between steps -- this should increase budgets but effects on performance are unclear

*reduce the number of steps and pay more for achievements in continuing education; the kinds of courses that qualify for credit can be limited to subject-specific content courses, in-house training programs or other speciality educational programs

A more interesting variant of this approach is the skills-based compensation programs now touted in some industrial circles (Lawler, 1981). The application of this approach in

education would be to pay a bonus or elevated pay rate for teachers that retrain in new subject areas or areas with teaching shortages.

Bruno (1986) has proposed a more ambitious multiple factor pay plan. Rather than basing pay level on tenure and continuing education, he recommends that 10 factors be considered. These factors can be weighted and computed to produce the best results. Among the factors he recommends: school location, subject matter taught, supervisory duties, highest academic degree, work experience, special distinctions (such as high student or parent evaluations), number of continuing education units and/or any special bonus factors. This approach is attractive in that a larger variety of important factors are figured into salary equations. These factors are objective and do not require judgements on teacher classroom performance or student achievement scores.

Shaw (1985) has proposed a hybrid between the single-salary and merit pay plans. He would start with the traditional single-salary table. But added onto the table are, say, three merit levels, turning the table into a cube. The three levels of merit might be something like basic, intermediate and advanced levels of performance. Each level would have its own unique set of criteria and measuring instrument. A teacher's bonus would start at their current location on the single-salary table, then the bonus would be based on their level of

merit attached to that location. In this way, recognition of time on the job and continuing education would remain while an evaluation of performance could be factored in. Brickell (1984) reports on an example of a hybrid in the Virginia Beach combined merit pay and Master Teacher program. Under this plan, progression from the three year's "probationary" status of new teachers into the "continuing contract" status of journeyman teacher is relatively automatic. A third, essentially master teacher "career" level can be earned with satisfactory performance, demonstrated involvement in professional activities and successful performance evaluations. Salary adjustments occur at each step in the path.

There are two intriguing suggestions for tinkering with merit pay plans. The first was made by Lieberman (1985). Taking the cue from the medical professions, he proposes the creation of national Educational Speciality Boards to test and certify teachers. Only a limited number (he recommends 10-20%) of teachers within any given speciality should be able to qualify. Once in, he suggests that substantial salary differentials be paid to those so certified. While this proposal avoids the administrative problems found in traditional merit pay plans, there are two problems with his proposal: this approach is not within the reach of local school boards; second, there is no guarantee that because a teacher can pass a very difficult test that that teacher is

any good in the classroom.

Perhaps the most promising variant to the merit pay plan is some form of group gain-sharing, group bonus or profit-sharing (Doyle, 1983; Bruno, 1986; Bacharach et al., 1984). The red thread running through each of these notions is that the group is rewarded for results, with the nature of the reward pegged to collective outcomes. For example, Bruno recommends that all the teachers in a school be rewarded in terms of end-of-the-year achievement for students as a whole. Industrial gainsharing programs compensate employees in terms of gains above an expected level of productivity. A group bonus could be an award given to a workgroup for exemplary performance. In all these ways, the level of compensation received by each member of the group depends on how well the group as a whole performs. For work that is very dependent on team effort, a group-type plan is very desireable.

PREFERRED POLICY OPTION

A Working Framework

One conclusion clearly emerges from the research into organizational behavior modification: people respond to what they are measured on (O'Brien, Dickinson & Roscow, 1982). Measurement and reward systems have effects. The secret is to

design the system so that the most desireable effects are achieved. Merit pay plans that are exclusively focused on individual teacher performance are not only very difficult to conduct and administer effectively but may also be short-sighted and myopic. Not only may individual merit pay plans produce undesireable effects on teacher morale, they may also reward the wrong kinds of behavior. Any incentive program can work to support organizational goals but only if the program supports the right kind performances.

The procedures of multiple regression analysis suggest how to frame the key policy issues facing merit pay plans: how much of the variance in school effectiveness can be explained by merit based pay plans? While there is no ready answer to this question, one could speculate that some of the variance, say 5%, might be a workable figure. Given all the factors that affect school effectiveness, 5% would be a respectable amount. That is, one would expect a performance-based incentive program to have something of an effect -- not overwhelming but also not insignificant -- on school outcomes. The issue is to design a program that maximally supports achievement of desireable outcomes.

To talk of outcomes, one must first talk of school effectiveness. As Cameron and Whetton (1983) convincingly argue, there is no one universal model of how an effective organization functions. Indeed, this line of thinking is

carried to the point of saying that effectiveness can only be defined in terms that are specific to a given institution. No general theory of effectiveness is possible. The model developed by Squires et al. (1983) represents a nicely detailed example of an institutional specific approach to defining the components to school effectiveness. That model will be the anvil on which the policy recommendation outlined below will be forged. Parenthetically, note at this point that the approach discussed below is assumed to be subject to collective bargaining. The ideas put forth here are presented as positions that the State could encourage and that districts could enter into negotiations with.

It is desireable for school governing boards to adopt a philosophy on compensation (Lastetter, 1981). This philosophy should describe the goals and intentions that inform what the board wants to achieve in using tax dollars to compensate faculty and staff. One requisite issue to be addressed in this philosophy is the criteria to use in deciding for what teachers and other personnel will be paid. While market forces cannot be ignored, school boards retain a lot of latitude in further defining the criteria. The traditional criteria used in single-salary plans is longevity and continued education. In the context of merit pay plans as discussed here, two criteria are recommended: student achievement scores on standardized tests and evaluations of teacher performance. Using the guidelines proposed by Haertal

(1986) and Wise et al. (1986), workable procedures for adequately measuring both of these factors would be established. As a result of this structure, each teacher would be evaluated on two factors: achievement of students from their school on standardized tests and ratings of teacher performance. Each teacher would receive an end-of-the-year cumulative rating based on the combination of the test score results and teacher ratings. While the actual weighting formula to be used should be determined from future research, for purpose of discussion here, assume that each factor is equally weighted. See the model below.

Individual Teacher Rating

=

School achievement results (50%) + Teacher rating (50%)

=

Rating of classroom performance (35%) + Rating of individual contribution (15%)

The suggestions by Haertel (1986) should be followed in using student achievement-based ratings. For example, each school would be placed in an appropriate comparison group (defined by

type (elementary, middle or high) and by typical SES of students). An expected norm of performance on student achievement for that group of schools would be computed. Then, using standard statistical demarcations (like standard deviation or stanine units), levels of performance around that expected norm would be created. A school's end-of-the-year student achievement level would be located in this distibution, and each teacher in that school would receive the same rating based on the school's performance on this measure. This rating would be worth 50% of each teacher's total rating. This measurement procedure does four things:

*it brings student achievement to center stage in evaluating teacher performance

*it creates an incentive for teachers in the school to work together for total school results

*it creates level playing fields for schools, taking into account the varying input characteristics under which each each school must work

*it eliminates "subjective" judgement from a substantial portion of the final rating

As part of design, it is necessary that all schools of the same type in the district use the same tests and same testing procedures. Thus, all elementary schools should be subject to the same testing procedures. It is desireable that representatives from the teachers's union play an instrumental role in helping make the selection of the tests to be used. Unless there are significant reasons for doing so, once a test

is selected, it should be retained.

Ratings of teacher performance would constitute the second 50% of each teacher's rating. There is a significant and prevailing set of standards for how effective ratings should be conducted (Latham and Wexly, 1981; Wise et al., 1986). These guidelines for proper rating procedures should be adopted and implemented. (Discussion of these principles are beyond the scope of this paper.) The teacher's rating would itself be a composite of two ratings. First, the principal or other appropriate instructional leader would rate the teacher's classroom performance. Again, the teacher's union can be highly involved in identifying the criteria to be used in making these evaluations and setting the standards of performance. Second, each teacher would also be anonymously rated by an appropriately designated set of teacher peers on the teacher's overall contribution to enhancing the standards of professional educational practice, academic excellence and school climate.

As is obvious, the major hurdle in the design of incentive compensation programs is the specification of what will be measured. The nature of the reward is almost secondary. In this context, a sliding scale of rewards would parallel the ascending levels of total ratings. Take the example of a teacher in a school whose student's achievement on the standardized tests is two standard deviations above predicted

levels of achievement. Each teacher in the school would receive the highest rating for the school achievement factor. That rating would be contribute to 50% of the teacher's final rating. Then, assume that the teacher is rated at the highest level of classroom proficiency and receives the highest ratings from peers. Together, this teacher would have the highest performance rating. In this case, the teacher would qualify for the highest possible reward. (Again, it is assumed that the teacher's union will play an important role in defining the particulars of the reward program.) Let's say here that the top of the merit pay scale is equal to 10% of annual salary. If there are five levels of merit rating from "excellent" to "does not qualify", merit bonus gradients would drop in 2% decrements to parallel the levels. At the other extreme, assume that a teacher was in a school who performed below expectation, who was rated poorly for classroom performance and who was so rated by peers. In this cse, the teacher would receive no merit bonus.

It is apparent that the principal plays an essential role in leading and shaping school results. Therefore, principals should also be on an incentive program which should be unique to their duties and sensitive to their scale of impact. There are a couple of unique features that should be built into their program. First, their potential gains from bonuses should be even higher than for teachers. In other words, it is desireable for top performers to be able to get bonuses

equivalent to 20-30% of their annual salary. Such a relatively large amount of bonus is justifiable for two reasons: one, in many ways, the entire school excellence process begins with and is sustained by the principal; and two, it is important to create very strong inducements to encourage the imagination, perseverence and finesse needed to carry off such a responsibility. Second, their incentive should not be dependent on self-evaluations, meaning that the rating they receive should not include the ratings they make of the teachers in their schools. Instead, their ratings should be based on student achievement scores and the peer ratings of teachers. (This structure focuses their attention on school academic achievement and the relationships between the faculty.) A different bonus schedule would be used: for example, top performers would qualify for a, say, 25% bonus while poor performers would not receive a bonus at all.

Policy Recommendations

Given this framework, the following policy guidelines are proposed:

1. Each school district should be encouraged to develop a policy on compensating its teachers and principals effectively. This policy should state that the entry-level salaries should be set high enough in order to attract quality individuals into the field; this salary level should be maintained at a market average. The

market must be taken to include not just other school districts but also other private and public employers that compete for the kinds of people desired.

2. Pay adjustments will be considered annually for each teacher and principal in the district. An amount of money will be earmarked and designated in the budget for this merit pool. This money would only be spent to the extent of people who qualified for it.
3. Pay adjustments would be geared to the performance of the school in which the teacher works (compared with other schools in its class) plus ratings of the teacher's performance. Teachers would be rated by their principal (or some other designated instructional leader) for classroom performance and by their peers for their overall contribution to the school.
4. Sufficient resources should be devoted to the effective evaluation of performance.
5. Merit bonuses would be paid annually and should be able to reflect meaningful advances in compensation. If insufficient funds are all that can be committed, incentive pay schemes should not be adopted. There should be a four or five step series of adjustments to correspond to an equal number of ratings. The bonus must be earned each year: it is not added to base salary. Base salary is kept at the market average.
6. Each merit rating should be confidential and not publically discussed.

Further, it should be the policy of the State of Maryland to encourage experimentation along these lines by the districts within the State. This can be done through special grants and other incentives.

Merit Pay and Organizational Effectiveness

The leading thinking on organizational effectiveness is found in the volume edited by Cameron and Whetten (1983). In that treatise, they advocate seven questions which should be posed to any pretender claiming insight into explaining how organization's operate effectively. These are valuable issues that sharpen discussion and analysis. The recommendation presented here will be examined from the viewpoint of these issues.

First, whose viewpoint is being used to evaluate effectiveness? As proposed here, effectiveness is measured on two criteria: school achievement and teacher performance. The prior factor is likely to be a view championed by the public and upper-level administrators. Not having any other lingua franca in public discourse with which to discuss school effectiveness, student achievement scores are a metric that the populace and the agents they elect can jointly use in assessing school effectiveness. Teacher performance is a

judgement representing two other segments: principals and peer teachers. Indeed, perhaps the only constituency not represented in this criteria would be students themselves.

Second, on what domain of activity is attention focused? The two domains are (1) the key output of the school -- measured level of learning -- and (2) the key throughput or work activity -- teaching.

Third, what is the level of analysis? Two levels are combined in this recommendation. One level of analysis is at the institutional level, considering the combined efforts and accomplishments of the school in toto. The other level is at the level of individual, teacher performance. This combination is necessary in order to account for both the loosely coupled nature of teacher performance while acknowledging the importance of total school accomplishment.

Fourth, what is the purpose of judging organizational effectiveness? The purpose is to improve the quality of school leadership and teaching in order to raise the measured levels of learning. A derivative purpose is to guide the rewarding of performance by the key players in the system.

Fifth, what is the time frame implied? The time frame used here is the academic year. Ratings are made annually and bonuses follow each rating. While it is recognized that

school improvements may require a number of years to complete, this perspective concentrates on what teachers do with their students during the year they have them.

Sixth, what kinds of data are being used? There are two basic kinds of measurement data used. First, there is the "objective" data from test results. Second, there is the more subjective data from principal and teacher peers. To say that the data may be more "subjective" is not necessarily bad. The need is to remove unnecessary sources of surprise and contention from subjective ratings. For example, it should be mandatory for principals to specify at the start of each academic year what kinds of criteria he or she will use in rating teacher performance. In part, these criteria should be proposed by and acceptable to the teachers themselves. The most subjective data would be from the teacher peers. This is a desireable condition because by keeping each teacher guessing about his or her colleagues' rating, there is an optimal incentive to cooperate with and solicit the help of one's peers.

Finally, seventh, what evaluative benchmark is used in this process? There are two kinds of benchmark data. First, statistical normative data are used to segment levels of school performance for schools within the same class. Second, normative rating levels are used for performance evaluations.

SUMMARY AND CONCLUSIONS

In spite of Reagan's claims, American institutions are not reascendent. Deep-rooted defects in certain fundamental dimensions of our society remain. We have not been repaired but, rather, have enjoyed some breathing room (Thurow, 1985). This judgement applies to our most important infrastructural system: education.

While the sources of the problems in education are immense, a few solutions have been put forward. Merit pay has been one such solution. Tapping into our deepest cultural assumptions about the motivating power of added income for extra or better work, the lure of this approach is very compelling. By making teacher salary dependent of teacher performance, a myriad of issues dissolve before the simplicity of the promise. Many are the difficulties noted, however, that can tarnish this promise.

What are we left to do? It is clear that people do respond to those things on which their work performance is measured. It is clear that any compensation system does allocate rewards based on some criteria and that the people paid under the system will "hear" what those criteria are. It makes the best

sense to indicate what teachers will be measured on and then align compensation to take into account those measures. In the process, new strains will arise as other subside. The real issue is not whether a merit pay plan will cause problems, but whether the problems it creates are, all in all, less than the problems it solves. The argument of this paper is that, on balance, the advantages win the day.

While a specific merit plan is recommended here, this recommendation is based on informed speculation. There is little experimental data on the effects of pay systems on performance in the classroom by teachers or on tests by students. Building and sustaining an excellent education for all our young people is not only good for our national self-interest, it is the birthright of our democratice heritage. Merit pay plans, while not perfect, may offer us a chance to make a small step forward on the path to improved education. We should look seriously at this option and be smarter in experimenting with it.

Appendix 1. Example of Single-Salary Schedule

From Educational Research Service, Methods for Scheduling Salaries for Teachers, 1984, Page 2.

Vertical Increments	Steps on Scale	Scales				
		B.A. Degree	B.A.+ 15 Hrs.	M.A. Degree	M.A.+ 30 Hrs.	Doctor's M.A.+ 60 Hrs.
	1	$15,200	$15,785	$16,554	$17,223	$18,037
$485	---------->					
	2	15,685	16,270	17,039	17,708	18,522
480	---------->					
	3	16,165	16,750	17,519	18,188	19,002
475	---------->					
	4	16,640	17,225	17,994	18,663	19,477
470	---------->					
	5	17,110	17,695	18,464	19,133	19,947
	6	17,575	18,150	18,919	19,588	20,404
	7	18,035	18,620	19,389	20,058	20,872
	8	18,490	19,075	19,834	20,503	21,327
	9	18,940	19,525	20,294	20,963	21,777
	10	19,385<--$585-->	19,970<--$769-->	20,739<--$669-->	21,408<--$814-->	22,222
		Horizontal Increments				
		Supermaximum Steps				
	Level A	19,825	20,410	21,179	21,848	22,660
	Level B	21,260	20,845	21,609	22,278	23,090

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